DNV·GL

Certificate No:
TAA00001JZ

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Automatic Gas Detection System

with type designation(s)
VECS Series

Issued to
Hanla IMS Co., Ltd.
Busan, Republic of Korea

is found to comply with
DNV GL rules for classification – Ships, offshore units, and high speed and light craft

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Temperature	**B**
Humidity	**B**
Vibration	**A**
EMC	**B**
Enclosure	**A**

Issued at **Busan** on **2019-05-10**
This Certificate is valid until **2019-12-31**.
DNV GL local station: **Busan**

Approval Engineer: **Dong Ho Park**

for **DNV GL**

Andreas Kristoffersen
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

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Job Id: **262.1-003442-6**
Certificate No: **TAA00001JZ**

Product description

Alarm unit:	OVMS-50
Pressure transmitter:	PL40-U (DNVGL TAC TAA0000244)
Oxygen sensor:	Xgard Type-1 & Electrochemical
Non flow alarm sensor:	NJ5-11-N
I.S. Barrier:	KFD-SR2-Ex1.W; KFD0-CS-Ex2.51p

Software version: 8.0

Application/Limitation

The following documentation of the actual application is to be submitted for approval in each case:
- Reference to this Type Approval Certificate
- System block diagram
- Power supply arrangement (may be part of the System block diagram)

This Type Approval covers hardware and software listed under Product description.

As long as the units are covered by the Type Approval, a product certificate according to Pt.4 Ch.9 Sec.1 [1.4] will not be required. Correct configuration and set up for each delivery to be tested during commissioning after installation.

Software control
All changes in software are to be recorded as long as the system is in use on board. Documentation of major changes is to be forwarded to DNV GL for evaluation and approval before implemented on board. Certification of modified functionality may be required for the particular vessel.

Ex installations to be approved in each case according to the Rules and Ex-Certification**/** Special Condition for Safe Use listed in valid Ex-certificate issued by a notified/recognized Certification Body.

Ex-certification is not covered by this certificate and the following paragraph, which is for information only, is based on information received from the manufacturer, but not verified by DNV GL.

Information on Ex-Certification received from manufacturer – Not verified by DNV GL		
Equipment	Certified	Certificate No.
KFD-SR2-Ex1.W	Ⓔx II 1 G D EEx ia IIC	PTB 00 ATEX 2080
KFD0-CS-Ex2.51p	Ⓔx II 1 G EEx ia IIC	BAS98ATEX7343
PL40-U	Ex ia IIC T6	DNV 13 ATEX 2917 X
Xgard Type-1	Ⓔx II 1 G EEx ia IIC T4	Baseefa04ATEX0115
NJ5-11-N	Ⓔx II 2 G EEx ia IIC T6	PTB 00 ATEX 2048 X

Type Approval documentation

Tests carried out

Applicable tests according to DNV GL Class Guideline, DNVGL-CG-0339, November 2016 and EN 50104 according to MED-B cert. No. MED 0500053 issued by notified body 0038

Marking of product

The products to be marked with:
- Manufacturer name
- Model name
- Serial number

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the type are complied with, and that no alterations are made to the product design or choice of systems, software versions, components and/or materials.

The main elements of the assessment are:

- Ensure that type approved documentation is available
- Inspection of factory samples, selected at random from the production line (where practicable)
- Review of production and inspection routines, including test records from product sample tests and control routines
- Ensuring that systems, software versions, components and/or materials used comply with type approved documents and/or referenced system, software, component and material specifications
- Review of possible changes in design of systems, software versions, components, materials and/or performance, and make sure that such changes do not affect the type approval given
- Ensuring traceability between manufacturer's product type marking and the type approval certificate

A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE